

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

A64.9
F31
C.3

NEW CROP VARIETIES

USDA
NAT'L AGRIC LIBRARY
1999 MAY -5 P 3:30
2005
2006

No. 11 — Summer 1969

UNITED STATES DEPARTMENT OF AGRICULTURE
FEDERAL EXTENSION SERVICE
WASHINGTON D.C. 20250

Described here are new varieties of certain field crops. The purpose of this annual summary is to provide the extension worker with reference information attuned to his requirements.

Assembled by the Federal Extension Service with the cooperation of State Extension Agronomists and the Agricultural Research Service--USDA

AST&M 227 (10-69)

Varieties Described

WHEAT - P. 1

Caprock
Chanute
Hercules
INIA 66
Ionia
Kenosha
Palo Duro
Satanta
Siete Cerros 66
Sonora 64
Waldron
Winoka
Yukon

OATS - p. 7

Coker 66-22
Coker 67-22
Cortez
Kota
Yancey

BARLEY - p. 9

Atlas 68
Bonneville 70
Clayton
Coho
Kerr
Knob
Primus II
Schuyler
TAMU-Era
Woodvale

RYE - p. 12

McNair Vita-Graze

SOYBEANS - p. 13

Coker Hampton 266A
Norman
Provar
Rampage
Wirth

SAFFLOWER - p. 15

AC-1

FLAX - p. 16

Foster
Norstar

PEANUTS - p. 16

Florunner
Spanhoma

COTTON - p. 17

Coker 417
Deltapine 16
Rex Smoothleaf 66
Tamcot 24

TOBACCO - p. 19

Ky. 14
Ky. 165

SUGARCANE - p. 19

C. P. 62-374
L. 62-96

MILLET - p. 20

Akron
Golden German
Leonard
Tiflate

ALFALFA - p. 22

520
ATRA 55
El-Unico
Joaquin 11
Kanza
Team
Titan
WL 215
WL 305

LUPINE - p. 26

Frost

HARDINGGRASS - p. 27

Wintergreen

KLEINGRASS - p. 28

Kleingrass 75

LOVEGRASS - p. 28

Catalina boer

NEEDLEGRASS - p. 29

Lodorm green

PERENNIAL RYEGRASS - p. 29

Manhattan

TIMOTHY - p. 30

Verdant

Inquiry about any variety described here should be directed to the State or producer releasing it.

WHEAT

Caprock (C.I. 14516), a sister strain of Sturdy, is a strong-gluten, good quality, hard red winter wheat developed by Texas AES and USDA. Some 6 to 10 inches shorter than Scout, Wichita and Bison, it has good lodging resistance. Its rather broad leaves and moderately erect juvenile growth make it well suited for winter grazing. The new variety matures about 1 day later than Sturdy, one to 4 days later than Triumph. Though it was highly resistant to races of leaf rust that were **prevalent** during testing, races are known that can attack Caprock. The variety is susceptible to prevalent races of stem rust and highly susceptible to mildew.

Caprock outyielded Sturdy by 8 bushels per acre under irrigation on the High Plains of Northwest Texas. Its test weight was a half pound higher, and its cold tolerance appeared slightly greater. It has been uniform in field appearance. Caprock is recommended in Texas but not in areas north of the State.

Foundation seed is available from the Foundation Seed Section, Texas A&M University, College Station, Texas 77841. Registered and certified seed will be available after the 1970 harvest.

Chanute is one of five varieties described in this issue developed by DeKalb AgResearch, 1831 Woodrow, Wichita, Kansas 67203. The female parent traces to a Norin 10 selection, the male parent is described as a high quality type wheat well suited to certain sections of Kansas.

Chanute is a hard, red winter wheat, 3-6 inches shorter than most winter varieties, with very strong straw and relatively high tillering capacity. It is highly resistant to shattering. Less winterhardy than Scout, it should be grown primarily in south central and eastern Kansas. The new variety has shown resistance to soil borne mosaic and moderate resistance to stripe rust. In 1968 tests at 7 Kansas, Oklahoma and Texas locations, Chanute ranked close to Scout in yield. Its test weight is described as outstanding, its milling and baking qualities excellent.

Wheat (cont.)

Hercules is a durum wheat developed by the Canada Department of Agriculture, Winnipeg Research Station, from the cross (R. L. 3097 x R. L. 3304) x (Stewart x R. L. 3380). Three components of this cross involve nine different varieties, some as many as eight times. Selection was aimed at an earlier, shorter variety having acceptable quality and yield.

In Canadian tests Hercules demonstrated good resistance to leaf and stem rust and moderate resistance to kernel smudge (black point). It is Canada's first commercial durum variety with resistance to loose smut. Its quality for the manufacture of pasta is a distinct improvement over current Canadian varieties. The kernels are large, with high yellow pigment content and strong gluten.

In North Dakota tests (1966-68) Hercules, like Leeds, was more erratic in yields than Wells, but its average performance was satisfactory. The kernels were quite large and the quality appeared to be good.

INIA 66, a Mexican selection from Lerma Rojo x Sonora 64, is an early red spring wheat of interest in Arizona and California. Similar in maturity to Ramona, INIA 66 was the better yielder by 28 percent in California trials though it showed less resistance to shattering. Its originators believe INIA 66 produces quality flour with strong gluten. Evaluation is underway.

The new variety has a nodding semi-lax spike, the glumes and awns are white; its kernels are large, semi-hard and high in test weight. Short to medium height, lodging resistance, and resistance to some races of stem rust and apparently to stripe rust are other features. INIA 66 is susceptible to barley yellow dwarf and to bunt. Treatment of planting seed is recommended. In California it is believed the variety is adapted throughout the State except for the northern intermountain area.

Commercial and foundation seed are available.

Wheat (cont.)

Ionia is a soft white winter wheat developed by the Michigan Agricultural Experiment Station. It is a Genessee type, obtained from a program of backcrossing the soft red wheat Redcoat to Genessee. Breeder seed of Ionia is a composite of four sister lines from the cross Genessee³ x Redcoat. The sister lines are visually indistinguishable except for straw strength and slight difference in height.

It is superior to Genessee in yield, resistance to Hessian fly, leaf rust and powdery mildew and is an inch shorter in height.

Breeder seed is being released in 1969; certified seed will be available in 1971.

Kenosha is a soft red, white-chaffed, awned winter wheat of medium height, developed by the Wisconsin AES and USDA. Its parentage is Racine x 213-4 backcrossed to Racine. Kenosha is similar to Racine--a variety it will partially replace--in lodging response, test weight, milling and baking properties, and in yields--except when stem rust is present. Then, Kenosha excels for its very good resistance. The new variety also has satisfactory resistance to bunt. Compared with Timwin (See New Crop Varieties No. 10, 1968) Kenosha has more winterhardiness but not as much lodging resistance.

The main reason for distributing Kenosha is to provide a winterhardy variety with stem rust resistance. Certified seed will be available following the 1969 harvest.

Palo Duro is a hard red winter wheat developed by DeKalb AgResearch, that is apparently well adapted to the Texas Panhandle. The female parent was a hybrid derivative having Morin 10 as one parent. The male parent of Palo Duro was described as an outstanding Texas variety having excellent milling and baking properties. The new variety is more winterhardy than Tacosa, and its straw is some 6 inches shorter and rated very strong. Its tillering tendencies and resistance to shattering

Wheat (cont.)

are good. In 1968 tests at 7 locations from Kansas southward, Palo Duro ranked first among 8 varieties including Scout. Test weight, milling and baking properties of the new variety are described as excellent.

Palo Duro has excellent resistance to soil borne mosaic, is moderately susceptible to loose smut but is susceptible to leaf rust, stem rust and bunt.

Satanta, a DeKalb AgResearch development, is a sister selection of Chanute--a short, stiff-strawed variety about two days earlier than Scout, with relatively good tillering capacity. Like Chanute, it is a hard red winter wheat with excellent test weight, milling and baking qualities. The two new varieties were similar in their high resistance to shattering and in yield--slightly below Scout. The similarity holds also for disease reaction. They are susceptible to leaf rust, stem rust and bunt, and moderately susceptible to loose smut. Both showed resistance to soil borne mosaic and moderate resistance to stripe rust.

Satanta appears to be less winterhardy than Scout, but sufficiently hardy for use throughout Kansas, except for high elevations in the northwest part of the State.

Siete Cerros 66 is a short to medium tall, mid-season white spring wheat of Mexican origin and Penjamo Sib x Gabo 55 parentage. It has attracted interest in Arizona and California by its yield potential, short straw, and resistance to lodging and to some races of stem rust. In California trials Siete Cerros outyielded Ramona by 31 percent, but, for its apparent lack of milling and baking qualities it should be considered presently only as a feed grain.

The new variety resists shattering as well as other Mexican wheats but not as well as Ramona. It is susceptible to barley yellow dwarf and to bunt, and moderately susceptible to stripe rust. Treatment of planting seed is recommended. The spike is bronze; the kernels are white, semi-hard, medium size and moderately high in test weight. Variation in plant height

Wheat (cont.)

and maturity is characteristic.

California reports indicate foundation seed became available this year.

Sonora 64 is a very short (average 32.2 inches), early, stiff-strawed spring wheat variety of similar maturity to Ramona 50. The spike is white, fully awned and nodding. The grain is red, moderately hard to hard, of medium size and high bushel weight. Sonora 64 is resistant to many races of stem rust but susceptible to bunt. Though moderately susceptible to stripe rust, it is superior to Ramona 50 in this respect. In yield, Sonora 64 excels Ramona 50 but ranks slightly below Pitic 62 and Lerma Rojo 64. It has exhibited acceptable milling and baking qualities when the protein level was adequate.

Waldron (C.I. 13958) is a hard red spring wheat developed by the North Dakota AES and USDA. It was selected from the cross Lee/Mida/2/K338AA/3/Lee/4/Justin and tested in North Dakota since 1964, in regional nurseries since 1967, and in collaborative quality tests with the milling industry for two years.

It is a beardless variety with a trace of awned plants, and usually develops a purple stem by harvest time. It is earlier, stronger strawed, and higher yielding than Chris, Manitou and Polk. Waldron's greatest yield advantage occurs under conditions that favor high yields. The new variety has field resistance to prevalent races of leaf rust and a broad range of resistance to stem rust.

In overall milling and baking quality, Waldron is acceptable--better than Manitou, about equal to Chris, but below Justin and Polk. In protein content it averages higher than Manitou, Chris or Polk and only slightly below Justin. Some tests have faulted Waldron slightly for water absorption and flour and crumb color.

Wheat (cont.)

Winoka (C.I. 14000) is a hard red winter wheat developed by the South Dakota AES, that features the combination of outstanding winterhardiness, good yields, stem rust resistance and excellent milling and baking properties. It was developed by the selection and combination of six pure lines drawn from Winalta, an outstanding Canadian variety.

Winoka is as winterhardy as Hume, Minter and Winalta. It resists prevalent races of stem rust but is susceptible to leaf rust and streak mosaic. Under some conditions Winoka is strikingly expressive of necrosis. This fault is believed to be associated with the emmer which was used to impart stem rust resistance to Winalta--Winoka's parent variety.

Winoka is bearded, white-chaffed, resistant to lodging and shattering, similar in height to Trader and Trapper, and a day later in maturing. Certified seed is available.

Yukon is a development of DeKalb AgResearch that is believed to be adapted to West-North Central Texas, Oklahoma, and southern Kansas. Its female parental type was a hybrid derivative having Norin 10 as one parent. The male parent is described as an outstanding Texas variety having excellent milling and baking properties.

The new variety is described: a hard red winter wheat, 6 inches shorter and 4 days earlier than Tacosa, with very strong straw. Its high tillering tendency makes it a promising forage-grain type. Yukon appears as winterhardy as Tacosa but has early spring recovery. Its shattering resistance is rated high, test weight outstanding and milling and baking properties excellent.

In 1968 tests at 7 locations from Kansas southward, Yukon averaged 34.7 bushels compared with 35.5 for Scout and 36.3 bushels for Palo Duro, leader of the 9 varieties tested. The new variety is described as having excellent resistance to soil borne mosaic, but as being susceptible to leaf rust, stem rust and bunt, and possibly moderately susceptible to loose smut.

Oats

Coker 66-22, developed by Coker's Pedigreed Seed Company, Hartsville, S.C., is described as a high yielding winter oat with a good winter survival record, and excellent resistance to soil-borne mosaic, culm rot, and Victoria blight. Its plant height and maturity are practically the same as for Coker 242. Growth habit is prostrate to semi-prostrate. The kernels are rather long, cylindrical, with light grey to reddish coloring.

The new variety's area of adaptation embraces the Piedmont and lower mountain areas of the Southeast and those Coastal Plains areas where crown rust resistance is not required. Coker 66-22 is susceptible to most prevalent races of the disease. Registered seed is available.

Coker 67-22, a product of Coker's Pedigreed Seed Co., Hartsville, S.C., is a winter oat suited to producing both grain and forage. Its upright juvenile growth makes it especially suitable for grazing. Other qualifications ascribed to the new variety are resistance to Victoria blight, culm rot and most prevalent races of crown rust. It is moderately tolerant to soil-borne mosaic. The plants average 2-4 inches taller than Moregrain and stand well. The kernels are yellow, plump and have shown good test weight. Areas of adaptation include the Southern Coastal Plains, Gulf Coast and lower Piedmont.

Registered seed is available.

Cortez (C.I. 8421), a sister selection to Coronado (see New Crop Varieties No. 10, 1968) was developed by the Texas AES and USDA. In yield trials since 1965 and regional trials since 1966, Cortez was equal or superior to Coronado in all these. It outyielded commercial varieties from fall seedings in south Texas, equalled Ora (see New Crop Varieties No. 6, 1964) in central Texas while outyielding all others, and excelled other varieties from spring seeding in northwest Texas. In north Texas it yielded only slightly less than Norwin and Ora from fall seedings. Cortez is moderately tall, with strong straw. It matures about 4 days ahead of Coronado. Certified seed growers have been supplied with seed.

Oats (cont.)

Kota (C.I. 8178) is a mid-season spring oat released by the South Dakota AES following evaluation at 19 locations throughout the North Central Region and Canada. It is similar to Portal in height, heading date, maturity, test weight and kernel size. The straw strength is moderately good. Approximately 75% of the kernels are yellow in white light and dark brown under ultra violet. The remaining 25% are yellow in white light and fluoresce blue-white under ultra violet. The protein content is good, the milling qualities have appeared suitable in preliminary tests.

Three year test averages show Kota equal to Holden in crown rust and stem rust resistance. Both are resistant to older races but susceptible to some newer races. Kota is resistant to the oat smuts and has some yellow dwarf tolerance. Its yields have been good over a range of adaptation.

Seed is being released to certified seed producers by Foundation Seed Stock Division, South Dakota State University and by neighboring States.

Yancey, a winter oat, is a selection from Carolee x Fulgrain, developed by the North Carolina AES. Very stiff straw, high yield, good test weight and grain quality are its attributes. It is resistant to stem rust and mildew, and appears moderately resistant to soil-borne mosaic virus. Like Carolee, Yancey lacks sufficient crown rust resistance for areas to the south where the disease is a serious problem, nor is Yancey resistant to BYD virus. The new variety appears best suited to situations where both the soils and production practices are good.

Barley

Atlas 68 is a 6-rowed, semi-smooth awned, spring barley developed by the California AES. Apparently it is identical to Atlas 57 except for its resistance to yellow dwarf and powdery mildew. Its resistance to yellow dwarf was obtained from Abate and to mildew from Algerian. The Turk scald resistance and Hanna mildew resistance of Atlas 57 were retained.

Bonneville 70 (C.I. 10640) is a white kernel, six row, smooth awned spring barley, developed cooperatively by the Utah AES and USDA. Tested as Bonneville 446 since 1960, the new variety was selected from several thousand lines drawn from Bonneville that had been irradiated in 1952. The final selection was characterized by brittle awns and improved threshability, but similarity in appearance to the parent otherwise. Bonneville 70 is high-yielding, has stiff straw and is late in maturity. Though slightly more susceptible to loose smut than Bonneville, the problem is considered no more serious than with other popular varieties. Bonneville 70 is recommended for irrigated sections of the intermountain area with fertile, medium to heavy soils. Breeder seed is being increased by the Utah Station for distribution in 1970.

Clayton is an awnleted winter barley selected from a 1953 Davie x Hudson cross at the North Carolina AES. The new variety has been tested in North Carolina since 1961 and in the Uniform Winter Barley Nursery for two years. Its performance was impressive in the 12 States, especially in comparison with other beardless types. Seed will be available for 1969 planting.

Barley (cont.)

Coho is a new spring malting barley released by the Michigan Agricultural Experiment Station in 1969. It is a 2-row barley originating from the backcross Bruen's Wisa² X-348. The cross was made to incorporate the enzyme system of an American 6-row (-348) into an European 2-row (Bruen's Wisa).

Coho is equal to Larker in yield and appears to be superior to Larker in lodging, test weight and malting quality.

A limited release was made in 1969 and both foundation and certified seed are available.

Kerr is a six-rowed, rough-awned winter barley of Rogers x Omugi parentage, released cooperatively by the Oklahoma AES and USDA. The new variety resembles Rogers in average yield, test weight, height and maturity. Kerr is the more winter hardy of the two varieties and has greenbug tolerance which Rogers lacks.

In comparison with Will barley (see New Crop Varieties No. 5, 1963) Kerr has not yielded as well in Oklahoma tests but has averaged 2.6 pounds higher in test weight. Its greenbug tolerance makes Kerr a good alternate variety. Kerr appears equal to Will in forage production and superior to Rogers. All three varieties are highly resistant to powdery mildew.

Registered and certified seed should be available after the 1970 harvest.

Knob (Ky. 63-686, C. I. 11910) (parents 'Aizu⁶ x F₂ Kenbar Wong) is an early, short, stiff-strawed, 6-rowed winter barley developed by the Kentucky AES. Its head type is short and compact with the lateral kernels awnless and central kernels awnleted. In winterhardiness, Knob is similar to Kenbar and its yielding potential is high. It is a clean threshing barley with better than average test weight for awnless types. Breeders seed will be maintained by the University of Kentucky.

Barley (cont.)

Primus II (C.I. 13796) developed by the South Dakota AES and USDA, was selected from Primus (see New Crop Varieties No. 9, 1967) for superior grain quality and uniformity. The two appear to be identical in yielding ability and disease reaction. Primus II is an early-maturing, modified Manchurian spring type 6-row barley, with long, spreading, smooth awns. Kernels are medium size, plump, with tight hulls that thresh free of awns. The new variety is resistant to prevalent races of stem rust but susceptible to loose smut, leaf and head blights. It has performed well in the Dakotas and Minnesota. Primus II is recommended as a feed barley pending approval for malting by the industry. Foundation seed was distributed the past spring.

Schuyler (C.I. 11887) is a 6-rowed awned feed-type winter barley developed by New York AES-Cornell. There it is medium late, short and stiff-strawed. It has shown excellent resistance to mildew and leaf scald. In yields Schuyler topped all other varieties in New York tests at 14 locations and in USDA tests at 83 locations. It compared with Hudson as follows (number of tests in parentheses):

Yield (bu/acre)		Test wt.	Winter	Height	Date Headed	Lodging	
N.Y. (14)	U.S. (83)	lbs./bu. (60)	Survival % (33)		in. (62)	May (62)	% (51)
Schuyler	92	69	45.5	73	30.8	22.8	13.8
Hudson	81	65	49.2	64	36.6	18.4	26.9

Limited supplies of certified seed are available.

TAMU-Era (C.I. 11666) is an early maturing, smooth awned, greenbug resistant, winter barley developed by Texas AES and USDA. It traces from a 1951 cross of Texas x Ludwig. In 1964-68 tests the new variety

Barley (cont.)

appeared well suited to the north central Texas areas, the Rolling and High Plains areas of the State.

TAMU-Era ranked second in average yield for five locations, equal to Cordova in test weight but slightly below Rogers and Will. The new variety lodged slightly more than Cordova but slightly less than the other two varieties. It is susceptible to mildew and leaf rust, moderately resistant to spot blotch and scald.

Foundation, registered and certified seed are available.

Woodvale (C.I. 13813) is a 6-rowed, white aleurone, smooth awned, stiff-strawed, spring habit feed barley developed cooperatively by Utah AES and USDA. A selection from Vale, Woodvale is expected to replace Vale and Bonneville on irrigated heavy soils of northern Utah, where lodging is a problem. Woodvale has equalled or excelled the other two in 13 Utah yield comparisons. It affords high level resistance to the same races of loose smut as Vale. Again like its parent, the new variety is somewhat difficult to thresh unless conditions are ideal. Breeder and foundation seed are maintained by the Foundation Seed Stock Division, Utah State University.

Rye

McNair Vita-Graze rye was developed by McNair Seed Company of Laurinburg, N.C., for fall and winter grazing. Three foundation lines developed by McNair are blended in equal portions and planted for commercial seed production. As a result of the intercrossing in the production field, according to the originators, the first generation has extra vigor, resulting in superior growth and regrowth after grazing,

Rye (cont.)

and the second generation is measurably below the first in productiveness. In view of this characteristic, the variety name, McNair Vita-Graze, applies only to the first generation. Commercial seed is produced and sold exclusively by McNair Seed Company.

Soybeans

Coker Hampton 266A, developed by Coker's Pedigreed Seed Company, Hartsville, S.C. originated as a line selection from Coker Hampton 266. Though basically of the Hampton type, the new variety offers a little more height and improved root knot nematode resistance. These characteristics are expected to result in improved performance, particularly on lighter soils and from delayed plantings.

Shatter resistance continues to be a feature. Oil content averages about 22 percent, protein 39 percent. Maturity is early November in the area of origin, typical of Group VIII varieties.

Norman is a variety of Acme x Hardome parentage, developed by the Minnesota AES and USDA, and jointly released by the Minnesota and North Dakota Experiment Stations and the USDA. Its area of greatest use is expected to be east central and northeastern North Dakota and the upper Red River Valley of Minnesota. It is intermediate to Portage and Flambeau in yield, maturity, standing ability and height. Norman has light green foliage, purple flowers and gray pubescence. Its seed is medium size, shiny yellow, with colorless hila. The seed quality, protein and oil content are good. The new variety is relatively tolerant to high-lime soils where iron deficiency often develops.

Registered seed is presently being produced in Minnesota and North Dakota.

Soybeans (cont.)

Provar is a special purpose, high protein variety developed cooperatively by Iowa AES and USDA and released this year to certified seed growers in Illinois, Iowa, Minnesota and South Dakota. Protein content 2.5 to 4.5 percentage points above current varieties is a feature. For this reason Provar might serve a special demand in both foods and feedstuffs. The seeds are large with a large brown hilum.

Midwestern tests since 1965 indicate the new variety is best suited to areas where Corsoy and Amsoy are grown--roughly those corresponding in latitude to the northern two-thirds of Iowa. Provar yielded about 2 bushels less than Corsoy at the 40 bushel level and matured one day later. It exhibited similar lodging resistance and growth habits to Hawkeye. It is not resistant to phytophthora root rot.

Rampage was developed cooperatively by the Iowa AES and USDA, and released by the Iowa, Illinois, Purdue, Minnesota, Ohio, South Dakota and Wisconsin AES and USDA. Rampage is a plant selection from the cross Clark x Chippewa. It is of Group I maturity averaging 5 days later than Chippewa 64 and the same as Hark. It is similar to Chippewa 64 and Wirth in appearance, having purple flowers, tawny pubescence, brown pods, shiny yellow seeds with black hila. It has an upright habit of growth. Rampage is susceptible to phytophthora root rot and similar to Hark in response to other diseases. Yield performance of Rampage has been superior to Hark, Chippewa 64, and Wirth, in all midwestern States except Iowa. In Iowa its yields have equalled Hark. Protein content is slightly lower and oil content is slightly higher than Hark.

Seed supplies will be increased by the appropriate foundation seed organizations of the participating States in 1969. Seed will be distributed to certified seed growers of these States for planting in 1970.

Wirth, a new soybean variety jointly developed by the Iowa AES and USDA, and jointly released by the Iowa, Ohio, South Dakota AES and USDA, is a selection from the cross Clark x Chippewa. It is similar in appearance to

Soybeans (cont.)

Chippewa 64 and Rampage, having purple flowers, tawny pubescence, brown pods and shiny yellow seeds with black hila. Wirth is susceptible to phytophthora root rot and similar to Chippewa 64 in response to other diseases. Locally, Wirth is suggested for competing areas where maturity characteristics forbid the use of Hark and Rampage. In protein and oil composition Wirth is similar to Chippewa 64.

Seed supplies increased in 1969 will be distributed to certified seed growers for planting in 1970 through the appropriate seed organizations in participating States.

Safflower

AC-1 is a selection from USDA line 14154 for verticillium wilt resistance and oil content made by Anderson, Clayton & Co., Phoenix, Arizona. Its intended use is on infested lands in Arizona and California. Under severe verticillium wilt conditions in Texas, 70 to 90 percent of the AC-1 plants survived while all plants of Gila, Frio and Dart were killed. In 1967 and 1968 Arizona wilt tests where infection was more moderate, 10 percent of the AC-1 plants were killed or damaged compared to 50 percent of the Gila, Frio and Dart plants. In the latter tests AC-1 produced 2800-3600 pounds seed per acre averaging 42.5 percent oil; yields of the other three varieties ranged from 1700 to 2600 pounds, and oil content 37.1 to 39.5 percent.

Equal in height to Dart and Frio, AC-1 matures 4 to 6 days ahead of Gila. Its seed is the smallest of the varieties listed. In seed fields presently some 6 percent of the plants are off-type. These are being eliminated in the maintenance nurseries for 1970 seed production fields.

Flax

Foster (C.I. 2523) is late maturing, high oil variety developed by the North Dakota AES in cooperation with USDA, from the cross C.I. 1605 x Minerva. The new variety has adequate resistance to wilt, some tolerance to pasmo and is resistant to all known North American races of rust. Its rust resistance stems from a different gene or genes from those in presently grown varieties. The seeds are relatively small and yellow with an occasional brown one; the flowers are dark blue with occasionally one of another color.

Foster is similar in maturity to B-5128, it compares in yield with other late varieties in North Dakota; but in oil content it exceeds all the other current varieties by 1.5 to 3.0 percentage points.

Norstar (C.I. 2290) is medium to late maturing flax variety of average height that has yielded well over a wide area, and performed outstandingly when sown early. It was developed by the Minnesota AES and USDA from the cross Redwood x Crystal, and released jointly with the South Dakota AES and North Dakota AES in April 1969. It is moderately susceptible to pasmo, resistant to rust and wilt, and has lodging resistance equal to that of Summit and Windom. Oil content is relatively high and of fair quality. Flower color is blue and seeds are brown and of average size. Seed will be available in 1970.

Peanuts

Florunner was developed by the Florida AES from a 1960 cross of Early Runner x Florispan. In Florida yield tests for four years, and Georgia and Alabama tests three years, the new variety consistently outyielded Early Runner. Its plant growth is more prostrate, foliage less dense, its pods more concentrated near the tap root, and its seed mature more uniformly

Peanuts (cont.)

(approximately 134 days) than Early Runner. Florunner has a high percent of sound mature seeds, desirable oil quality and processing characteristics.

Incidence of pod rot is slightly less with Florunner than with Early Runner. In seedling vigor and leafspot disease ratings, the two varieties are very similar. Since Florunner seed is large, planting rates should be increased about 10 percent. Seed is available.

Spanhoma is a Spanish type peanut variety which traces to an individual plant selection from P.I. 121070-3. Early selections were made in Georgia and Texas, and later selection and testing leading to release of the variety were done primarily in Oklahoma. The variety was released jointly by the Oklahoma and Georgia Agricultural Experiment Stations and the U.S. Department of Agriculture.

Spanhoma yields averaged about 12% more than Argentine in Oklahoma tests, with pods and seeds of a more desirable shape. The mean total sound mature kernels is usually similar for Argentina and Spanhoma, but in a limited number of tests, Spanhoma has slightly excelled the Starr variety in this respect.

Cotton

Coker 417 was developed by Coker's Pedigreed Seed Company, Hartsville, S.C., through selection within Coker 413 breeding stocks. The basic material originated from a cross involving Coker 100 Wilt and Coker-Wilds. Coker 417, the breeders report, represents improvements over Coker 413-68 in yields and tolerance to fusarium and verticillium wilts, without sacrifice of spinning performance. Its fiber data are listed: length, 1 1/16 - 1 1/8",

Cotton (cont.)

strength, 85,000-90,000 p.s.i., micronaire averages 4.0 - 4.2, and 22's yarn strength in the 125-135 pound range.

The producer believes the new variety's wide range of adaptation, efficiency in machine harvesting and projected per acre value make it more competitive with standard varieties across the Belt.

Deltapine 16, a 1968 release of Delta and Pine Land Company, Scott, Mississippi, resulted from the cross Deltapine Smooth Leaf x Deltapine 45. It features the smooth leaf, stiff stalk and storm resistance of its Smooth Leaf parent along with similar gin turnout and fiber properties to both parents. The staple is approximately 1/32 inch longer. The new variety inherited the seedling vigor, verticillium and fusarium wilt resistance of Deltapine 45, though it is slightly less resistant to fusarium wilt than the parent. It exceeds Smooth Leaf in yields by about 10 percent. Deltapine 16 is moderately early and indeterminant, with good stalk strength and wind tolerance.

Rex Smoothleaf 66, a release of the Arkansas Cotton Branch AES, is a selection from Rex Smoothleaf. The two varieties are similar in earliness; but the new variety offers larger bolls, 1/32 to 1/16 longer staple and 8 to 10 percent greater yarn strength. Rex Smoothleaf exhibits good tolerance to fusarium wilt.

Tamcot 24, a sister line to Tamcot 788 from the cross P-1874 x C.A. 398 (see New Crop Varieties No. 10, 1968) is a medium maturity, medium boll, stormproof, strong fiber variety that is well adapted to the Southwest Rolling Plains Area. It was developed at the South Plains Research and Extension Center, Lubbock, Texas. In fiber strength it approaches Acala 1517. Its fiber is the longest of the stormproof varieties, finer and lower in micronaire. Tamcot 24 is tolerant to bacterial blight and root knot nematodes. Overall, it is described as a once-over stripper variety, well adapted to the area of origin, yields well and produces fiber of excellent spinning characteristics.

Seed will be available in 1970.

Tobacco

Ky. 14 is a disease resistant burley variety developed cooperatively by Kentucky AES and USDA. It is an F8 selection from crosses involving Burley 21, Ky. 16, Warner and breeding line Experimental 4. It is highly resistant to wildfire, mosaic, fusarium wilt and black root rot.

Ky. 14 is a standup variety, uniform in growth, about the same height as Burley 21 but 7 to 10 days later. Its leaves are a little shorter and wider than leaves of Burley 21. Ky. 14 holds its bottom leaves well.

In five-year tests the new variety outyielded Burley 21 by 300 pounds and was consistently better in Ohio and Missouri trials. The quality was slightly lower than that of Burley 21, yet smoking and chemical characteristics have been satisfactory. Foundation seed, maintained by the Kentucky AES, was released to certified seed growers this year.

Ky. 165 is a one-sucker variety (Type 35) tobacco developed cooperatively by Kentucky AES and USDA. It is the first variety of its type bred with high resistance to wildfire and mosaic, and medium high resistance to fusarium wilt and black root rot. In 4-year tests, Ky. 165 compared favorably with Ky. 160 in yield, value, and leaf quality. The leaves and stalks are about the same size as of Ky. 160, but with a little more leaf ruffle and two to four more leaves per plant. The two varieties mature about the same time. Tobacco companies have indicated these varieties will have similar usefulness. Seed has been released to certified seed growers.

Sugarcane

C.P. 62-374, developed by the Florida AES, the Florida Sugar Cane League and USDA, is a low fiber, large barrel, high tonnage variety that is moderately resistant to mosaic. Its growth starts early and continues at a rapid rate throughout the growing season. On both warm and cold

Sugarcane (cont.)

muck soils, the new variety outyielded Cl. 41-23 by 30 percent of cane and 35 percent sugar. It excelled also in milling quality and juice extraction, with no difficulties in processing.

Seedcane is available from Florida Sugar Cane League, Inc., P. O. Box 1148, Clewiston, Florida 33440.

L. 62-96, is a cooperative development of Louisiana AES, the American Sugar Cane League and ARS. It excels C. P. 52-68, the Louisiana industry's most widely grown variety, in both sugar yields per ton and per acre, despite its generally lower early spring population. The plants stand erect and are well adapted to machine harvesting; the fiber is low and extraction qualities are good.

The new variety is rated susceptible to ratoon stunting disease and moderately susceptible to borers and to mosaic. However, the disease spreads more slowly than in L. 60-25.

Seedcane is available from the American Sugar Cane League, 414 Whitney Building, New Orleans, La. 70130.

Millet

Akron is a tall late variety selected from P.I. 222811 by the Colorado AES. The 22-44 inch plants mature ordinarily at the Akron, Colorado, location two to four weeks after Turgai and common white proso. Heads are very compact; the large dark red seed is in demand by the birdseed trade.

Foundation and certified seed are available.

Millet (cont.)

Selection of Golden German millet from common German was begun in 1938 by David Deschamps, a Colorado certified seed grower and continued since 1955 at the Akron Branch, Colorado AES. Plants are vigorous, erect and mid-tall to tall. Heads are of the foxtail type and usually slightly lobed. They may reach 6 inches in a favorable season. Seeds are nearly round and golden in color--hence, the name. The medium size stem is often streaked with purple at maturity, 26-42 inches high. The variety tillers profusely under favorable conditions, heads in about 55 days, and is considered an excellent hay millet. Its large seed is favored by birdseed merchants.

Foundation and certified seed are available.

Leonard was selected by Colorado AES, Akron Branch, from P.I. 223794. Plants are mid-tall (22-36 inches), fine stemmed and very leafy. The head is open, typical of the proso millets. The seed is tan; maturity follows Turgai and common white proso by about 2 weeks.

Foundation and certified seed are available.

Tiflate is a heterozygous variety of pearl millet but uniform in reaction to day length, i.e. the plants remain vegetative until the day length shortens to 12 hours or less. In the latitude of Tifton, Georgia, Tiflate, when planted anytime from April to August, will not flower until late October. These plantings may reach heights of 15 or only 5 feet, respectively, when mature. This photoperiod sensitivity keeps the crop in a vegetative condition for a longer than normal period, gives a better seasonal distribution of forage; imparts succulence, leafiness, digestibility, and generally a higher single-cut yield when harvested at the boot stage. Under other cutting regimes, the new variety yielded less dry matter than Gahi-1 but under grazing, Tiflate was equally productive.

Tiflate is more resistant to *Helminthosporium setariae* than Starr and Gahi-1 and, like other millets, it contains no prussic acid. Its photoperiod sensitivity limits seed production to those areas where there

Millet (cont.)

are 70 to 80 frost-free days with less than 12 hours of sunlight. The Georgia Coastal Plain AES, developer of the variety in cooperation with USDA, will maintain breeder seed.

Foundation seed is handled by Georgia Seed Development Commission, Whitehall Road, Athens, Ga. 30601.

Alfalfa

520 was developed by Arnold-Thomas Seed Service, P.O. Box 2345, Fresno, California 93723. It stems from plant selections drawn from Arnim, Culver, Narragansett and Vernal. Screening, testing and evaluation were done in both California and the Middle West (Vernal-Ranger areas) where the variety will be offered.

520 ranks between Vernal and Ranger in fall and winter dormancy, has dark green foliage, has excelled in resistance to Leptosphaerulina leaf disease, and is resistant to downy mildew. Flower color is dark purple ranging through variegated to a few plants with yellow flowers.

Seed will be available in late 1969. Certified seed may be produced, according to the originators, from breeder or foundation seed only.

ATRA 55, also a product of Arnold-Thomas Seed Services, traces to Vernal, Narragansett, Arnim and Culver. Evaluation was conducted in the Middle West as well as California. It will be merchandized in the northern and central regions where Vernal and Ranger are grown.

The new variety behaves similarly to Vernal in fall and winter dormancy. Its foliage is dark green, with some resistance to downy mildew and

Alfalfa (cont.)

Leptosphaerulina leafspot.

Some seed was produced in 1968. Certified seed may be produced from breeder or foundation seed only.

El-Unico is an extremely non-winter-dormant variety, well adapted to the central valley of California and the lower desert valley areas of the Southwestern United States for winter forage production. It is the broad area where the Moapa, Sonora and Mesa-Sirsa varieties are grown. In Arizona, El-Unico is similar to Mesa-Sirsa but superior to Moapa and Sonora in forage production.

El-Unico was developed cooperatively by the Arizona AES and ARS-USDA. Participating in release of the new variety are the Arizona, California, and Nevada stations.

It is more tolerant of or resistant to the downy mildew fungus and to spotted alfalfa aphid than Moapa or Sonora, and similar to Mesa-Sirsa in this respect. It is similar to Mesa-Sirsa also in seed production, and superior to Moapa and Sonora. It shows the same level of resistance to the southern root-knot nematode as the older varieties.

El-Unico was developed by crossing the two parent clones of the variety Mesa-Sirsa that were highest in combining ability for forage production; and similarly, crossing the two highest yielding parents of Sonora. These two single crosses were blended in a 1 to 1 ratio and classed Breeders seed. This seed was planted to produce the first synthetic generation and called Foundation seed. Foundation seed will be planted to produce Certified seed. The Arizona Station will assume the responsibility of producing Breeders seed.

Limited supplies of certified seed are available.

Alfalfa (cont.)

Joaquin 11 was produced by Security Seed Co., P.O. Box 65, San Joaquin, California 93660. Its parentage was drawn from African and Afghanistan. This variety is to be grown primarily in the San Joaquin and Sacramento Valleys of California. Other possible areas of adaptation are Arizona, New Mexico and Texas; excluding the low desert valleys. Testing has centered in the Sacramento, San Joaquin and Imperial Valleys.

Joaquin 11 is non-dormant, but not quite as much so as Moapa. It recovers rapidly, is upright in growth habit, and resistant to spotted alfalfa aphid. Its flowers are purple and uniform; its pods are dark brown when dry, with a full curl.

Certified seed may be produced from breeder or foundation seed only. Seed will be available this year.

Kanza was developed cooperatively by Kansas State University with USDA. Its parentage embraces Kansas Common, Turkistan and Cody. Characteristics emphasized in the selection and screening processes were resistance to pea aphid, spotted alfalfa aphid and bacterial wilt, along with good agronomic performance. The variety has been tested in the North Central Region.

In winterhardiness Kanza appears equal to Cody and Buffalo. The new variety is similar to these also in uniformity, fall dormancy, height and upright growth habit. Its foliage is a darker green. The flower color ranges from blue to purple. Its coiled pods are brown to black.

Kansas State University will direct production of breeder and foundation seed. Certified seed may be grown from foundation or registered seed. Certified seed will be available in 1970.

Team is our first alfalfa variety in certified seed production to offer improved, though not fully adequate resistance--according to its developers, to the alfalfa weevil. The name acknowledges the cooperative efforts of its developers--the North Carolina, Maryland and other experiment stations, along with Crops and Entomology Divisions, ARS, USDA. It was released for growing in the Maryland-Virginia-North Carolina

Alfalfa (cont.)

region. Beside weevil resistance, the new variety offers increased resistance to pea aphids, anthracnose, *Stemphylium* leaf spot and common leaf spot. In comparison with varieties presently grown in the area, its forage yields are equal or greater and its quality comparable in terms of animal acceptance, intake, and digestibility.

Selection leading to development of Team began in 1957 at Raleigh, N.C. where 66 plants were chosen for low weevil damage from a wide range of materials. Six cycles (generations) of selection have followed, involving evaluation of 2,500 to 50,000 plants per cycle. Two cycles of selection were conducted at each the North Carolina and Maryland stations and at Beltsville, in that order.

Limited supplies of certified seed should be available in 1970.

Titan, a product of Rudy-Patrick Seed Division, W. R. Grace and Co., RR3, Ames, Iowa 50010, traces to Vernal. Bases of the selection were insect and disease resistance, seed and forage traits and combining ability. In light of widespread evaluation it is believed the new variety is adapted to the North Central Region, Pacific Northwest, the North Central and Northeastern Regions and to southern Canada. It is considered suitable for use in either long or short stands.

Titan is winter dormant, somewhat more vigorous than Vernal, taller and more erect in late summer. Its stems are moderately fine--like Vernal; blooming is several days earlier. Titan is moderately resistant to leafhopper yellowing, somewhat tolerant to pea aphid, and carries high-level resistance to bacterial wilt. The flower color ranges--purple, blue, variegated to yellow and white.

Commercial or certified seed fields will be planted with breeder or foundation seed only. Seed will become available in 1969.

WL 215 is a development of Waterman-Loomis Co. Its parentage consists of 25 clones that survived 3 years or more of uncontrolled weevil populations in Maryland. Concurrently most of the clones were progeny tested in the Midwest for forage yield and persistence. Sources of the

Alfalfa (cont.)

clones were Ranger, Atlantic, Buffalo and Vernal. WL 215 is regarded as primarily a hay variety for the Midwest.

In growth habit, this variety is similar to Vernal. Half the flowers are purple or bluish purple, about 8 percent white, and the remainder variegated. Certified seed will be grown only from foundation seed. Seed will be available in 1970.

WL 305 is another Waterman-Loomis Co. development--see WL 215 above. It was derived by the combination in 1964 of 8 clones drawn from 62 WB, Vernal and Atlantic. Upright in growth habit, WL 305 is darker green in color under leafhopper attack than Cody, Ranger and Buffalo, and is similar to Cody in uniformity. The new variety is considered best suited to central Cornbelt and adjacent areas where WL 303 has performed best, but where a higher level of bacterial wilt resistance is required. Certified seed will be produced only from breeder seed or the first increase of breeder seed. Seed will be available in 1970.

Lupine

Frost, a more winterhardy blue lupine than any formerly commercially available, was developed cooperatively by the Georgia (Coastal Plain) AES, Florida AES and USDA. It features also low alkaloid content, digestibility and palatability equal to Rancher (see New Crop Varieties No. 8, 1966). It offers also equal or superior disease resistance and forage production equal to Rancher in open winters and superior production when severe winterkill occurs. The seeds are small, averaging some 1-1/2 times as many per pound as Rancher. Seed yields in South Georgia favor Frost in terms of numbers of seed if not pounds produced,

Lupine (cont.)

but, in North Central Florida, Rancher may produce many more seeds some years.

Local research is yet needed to determine the adaptation range of Frost lupine, as in the Coastal Plains of South Carolina, Alabama, Mississippi and Louisiana. Foundation seed is available from both Florida Foundation Seed Producers, Inc., P.O. Box 14006, University Station, Gainesville 32603 and Foundation Seeds, Inc., Seed Technology and Development Center, Athens, Ga. 30601.

Hardinggrass

Wintergreen hardinggrass was selected by the Texas AES from Australian introductions largely for its ability to survive cold weather and summer droughts. There the new variety has survived 5°F. though the topgrowth was killed. A plot established in 1958 still survives while a companion hardinggrass block was abandoned after two years. Grazing results have been favorable. The palatability is good, gains slightly below those on oats, and with no toxicity symptoms observed. Though the range of adaptation has not been fully established, Wintergreen appears well adapted to the Blacklands and Grand Prairies in Texas.

Certified seed will be available this fall.

Kleingrass

Kleingrass 75 (P.I. 166400), an increase from a 1952 Union of South Africa introduction, was released jointly by the SCS nursery at San Antonio and Texas AES, where it is being certified. This grass is variable in growth habit, leaf color and degree of pubescence. Stems are fine, generally upright, and may attain a height of 4 feet. The seed head is an open panicle, filled with small seed--approximating 500,000 per pound. The seed shatter on maturing thus limiting harvest. Plants begin growth early in the spring, remain green until late fall, show good drought tolerance and recovery, and winterhardiness northward to the vicinity of Lubbock. Tests at several Texas points indicated satisfactory grazing performance, above average protein, but less forage than Coastal bermudagrass. Foundation and certified seed are available.

Lovegrass

Catalina boer lovegrass is an apomictic line tracing to PI 203347, a 1952 accession from Union of South Africa. The new variety stems from 216 survivors of 50,000 seedlings screened for seedling drought tolerance under controlled environment in growth chambers. Seed was harvested from the interpollinating surviving plants in isolation and their progenies retested. Of these, Line 3-17, now designated Catalina, was found superior. In subsequent tests at four sites under Arizona rangeland conditions it consistently excelled A-84 boer lovegrass in stand establishment and equalled Lehmann lovegrass. It outyielded Lehmann by 30 percent and its forage was superior.

Catalina was developed cooperatively by the Arizona AES, SCS and ARS-USDA. Its adaptation is expected to be the semiarid and arid areas of the Southwest, particularly at elevations below 4600 feet, with minimum annual precipitation of 12 inches. The Arizona station will maintain foundation seed. Certified seed should be available in 1970.

Needlegrass

Lodorn green needlegrass is a self-pollinating line, identical in appearance to Green stipagrass which it equals in forage and seed yields. Lodorn seed is slightly the smaller of the two and characterized by lower post-harvest dormancy. Tests under range conditions in Montana and North Dakota have demonstrated its adaptation to non-irrigated dryland of the Northern Great Plains. It is suited for grazing in mixtures with other species and for erosion control.

Lodorn was developed at the Northern Great Plains Research Center, Mandan, N.D. and is being released cooperatively by the Experiment Stations of Montana, North and South Dakota, ARS and SCS, USDA. Breeder seed is being maintained at Mandan, foundation seed at the two Dakota stations. Certified seed is available.

Perennial Ryegrass

Manhattan is a leafy, persistent, turf-type variety developed by New Jersey AES. Its features include denser, finer textured turf and slower vertical growth rate than found in other varieties. It is dark green, bright and attractive. Like other ryegrass varieties, Manhattan performs best in a cool, moist, marine-type climate or during the cool moist weather of spring and fall. Poor summer performance is to be expected in warmer regions such as the Washington, D.C. area. Manhattan ranks with the better varieties in winterhardiness and in resistance to snow mold, yet is inferior to red fescue and Kentucky bluegrass in these respects. The New Jersey station advises inclusion of an improved bluegrass in the seeding mixture to improve summer and winter performance.

Manhattan is easy to establish on a range of soils including sandy coastal plains where bluegrass is not well suited. It is useful for overseeding devastated turf areas and, from early reports, may be useful

Perennial Ryegrass (cont.)

for winter overseeding of warm season grasses in Southern regions.

Manhattan is a 16-clone synthetic variety. Its germ plasm was drawn largely from plants selected in Central Park, Manhattan Island--hence, the name. Moderate quantities of certified seed will be available this year.

Timothy

Verdant, a disease-resistant, rich green timothy variety for the North Central States, was released to certified seed growers by Wisconsin AES and USDA. Verdant is resistant to stem rust and brown leaf blight--major diseases of timothy grown for seed in the upper Great Lakes area. It has yielded about 460 pounds of clean seed per acre in tests near Madison. Verdant's exceptional leafiness and good seedling vigor also make it a favorable forage source for this region.

The new variety matures about 10 days later than Climax and 2 weeks later than Common timothy. In forage production it exceeds Climax and Common by 6 to 10 percent. Verdant also has outyielded other late-maturing varieties in Wisconsin tests.

Limited supplies of certified seed should be available after the 1969 seed harvest.

